Author Index

A

Abbott, R.J., Plant invasions, interspecific hybridization and the evolution of new plant taxa 401
Aber, J.D., Nitrogen cycling and nitrogen saturation in temperate forest ecosystems 220
Adam, P., Review of *Saltmarshes*, by J.R.L. Allen and K. Pye 356
Adams, J., *see* Johnson, R.
Aguilar, J-P., *see* Catzeflis, F.M.
Ahnesjö, I., *see* Vincent, A.
Alexander, H.M., *see* Marquis, R.J.
Allmon, W.D., Review of *The Miner's Canary*, by N. Eldredge and *On Methuselah's Trail*, by P.D. Ward 245
Altmann, M., 'Biopesticides' turning into new pests? 65
Recombinant biopesticides – a reply to McClintock and Sjoblad 352
Asquith, P.J., Kinji Imanishi and ecology in Japan 285
Athias-Binche, F., Altruistic cannibalism and superorganisms 101
Atkinson, D., How long is the life span of a root? 173
Atkinson, D., Interactions between climate and terrestrial ecosystems 363
Ayre, D., *see* Hughes, T.P.

B

Bailey-Watts, A.E., Review of *Eutrophication of Freshwaters*, by D. Harper 318
Balmford, A., *see* Georgiadis, N.
Barnard. C.J., Kin recognition and kin discrimination – a reply to Bekoff 101
Bartha, S., *see* Czárán, T.
Baum, D., Phylogenetic species concepts 1
Bawa, K.S., The riches of tropical forests: non-timber products 361
Beanland, T.J., *see* Howe, C.J.
Bekoff, M., Kin recognition and kin discrimination 100
Bengtsson, B.O., Chromosome variability in tumours and cell lines 241
Bennett, A.F., Review of *Environmental Physiology of the Amphibians*, edited by M.E. Feder and W.W. Burggren 426
Berglund, A., Review of *The Evolution of Parental Care*, by T.H. Clutton-Brock 67
see Rosenqvist, G.
see Vincent, A.
Bernstein, C., *see* Kacelnik, A.
Berryman, A.A., Intuition and the logistic equation 316
Berryman, A.A., Valenti, M.A., Harris, M.J. and Fulton, D.C., Ecological engineering – an idea whose time has come? 268
Birks, S., *see* Jones, D.
Boake, C.R.B., Sexual preference and genetic correlations – a reply to Nichols and Butlin 30
Bourget, E., *see* Le Fèvre, J.
Bourke, A., Adaptive significance of avian helping behaviour 102
Bowman, J.E., Review of *Human Paleopathology*, edited by D.J. Ortner and A.C. AufderHeide 137
Boyce, R.L., *see* McCune, D.C.
Bradley, J.S., *see* Wooller, R.D.
Brockmann, H.J., Review of *The Social Biology of Wasps*, edited by K.G. Ross and R.W. Matthews 140
Brooks, D.R., Mayden, R.L. and McLennan, D.A., Phylogeny and biodiversity: conserving our evolutionary legacy 55
Phylogenetics and conservation 353
Brown, V.K., Plant succession and life history strategy 143
Browne, R.A., Population genetics and ecology of *Artemia*: insights into parthenogenetic reproduction 232
Brunet, J., Sex allocation in hermaphroditic plants 79
Burdon, J.J., Review of *Plant Resistance to Herbivores and Pathogens*, edited by R.S. Fritz and E.L. Simms 395
Butlin, R.K., *see* Nichols, R.A.

C

Caro, T., *see* Murray, M.
Carpenter, S.R., Cottingham, K.L. and Schindler, D.E., Biotic feedbacks in lake phosphorus cycles 332
Case, T.J., Biogeography of island lizards – a reply to López-Jurado 134
Catzeflis, F.M., Aguilar, J-P. and Jaeger, J-J., Muroid rodents: phylogeny and evolution 122
Cavalier-Smith, T., Review of *Symbiosis as a Source of Evolutionary Innovation*, edited by L. Margulis and R. Fester 422
Chao, L., Evolution of sex in RNA viruses 147
Recurrent viruses and theories of sex – reply to Hamilton 278
Chapin, III, F.S., Schulze, E-D. and Mooney, H.A., Biodiversity and ecosystem processes 107
Charlesworth, D., Review of *Evolution and Function of Heterostyly*, edited by S.C.H. Barrett 428
Clarke, A., Is there a latitudinal diversity cline in the sea? 286
Coddington, J.A., Review of *The Comparative Method in Evolutionary Biology*, by P.H. Harvey and M.D. Pagel 68
Coleman, R.M. and Gross, M.R., How to rescue the Concorde fallacy – a reply to Jokela and Vuorisalo 169
Connell, J.H., *see* Hughes, T.P.
Cork, S.J., *see* Foley, W.J.
Cottingham, K.L., *see* Carpenter, S.R.
Craig, C.L., Aerial web-weaving spiders: linking molecular and organismal processes in evolution 270
Crawley, M., Review of *New Flora of the British Isles*, by C. Stace and *British Plant Communities: Vol. 2, Mires & Heaths*, edited by J.S. Rodwell 171
Croxall, J.P., *see* Wooller, R.D.
Cushman, J.H., Review of *Earth in the Balance*, by A. Gore 395
Czárán, T. and Bartha, S., Spatiotemporal dynamic models of plant populations and communities 38

D

Daly, M., Review of *Aggression and*

Peacefulness in Humans and Other Primates, edited by J. Silverberg and J.P. Gray 424
Dayton, P.K., Scientific communication: the burden of responsibility 392
de Ruiter, J.R., Monastic meeting questions paternity 72
Destombe, C., *see* Valéro, M.
Dewar, R.C., Inverse modelling and the global carbon cycle 105
Dhondt, A.A. and Lambrechts, M.M., Individual voice recognition in birds 178
Di Giulio, M., On the origin of the genetic code 176
Dickman, C.R., Commensal and mutualistic interactions among terrestrial vertebrates 194
Dobson, A., *see* Murray, M.
Doley, D., Review of *The Physiological Ecology of Woody Plants*, by T.T. Kozlowski, P.J. Kramer and S.G. Pallardy 66
Dugatkin, L.A., Mesterton-Gibbons, M. and Houston, A.I., Beyond the prisoner's dilemma: toward models to discriminate among mechanisms of cooperation in nature 202
Dunton, K., Arctic biogeography: the paradox of the marine benthic fauna and flora 183
During, H.J., Endangered bryophytes in Europe 253
Dykhuizen, D.E., Experimental evolution: replicating history 250

E
Edmunds, M., Flightlessness in insects 421
Elgar, M.A., *see* Hyde, L.M.
Everson, I., Review of *Climate Variability, Climate Change and Fisheries*, edited by M.H. Glantz and *Confronting Climate Change*, edited by I.M. Mintzer 428

F
Firbank, L., Review of *Ecosystems of the World: Vol. 18, Field Crop Ecosystems*, edited by C.J. Pearson 280
FitzGerald, G.J., Filial cannibalism in fishes: why do parents eat their offspring? 7
Fleming, I.A. and Hindar, K., When hot geology meets cold climate on an island 360
Fogarty, M.J., Marine recruitment – a reply to Mullen 135
Foley, W.J. and Cork, S.J., Use of fibrous diets by small herbivores: how far can the rules be 'bent'? 159
Forbes, L.S., *see* Mock, D.W.
Forey, P., Review of *Fish Evolution and Systematics*, by B.G.M. Jamieson 66
Frank, S.A. and Slatkin, M., Fisher's Fundamental Theorem of natural selection 92
Franks, N.R., *see* Tofts, C.
Fretwell, S.D., *see* Oksanen, T.
Fulton, D.C., *see* Berryman, A.A.

G
Gadgil, M., Review of *Comparative Ecology of Microorganisms and Macroorganisms*, by J.H. Andrews 243
Georgiadis, N. and Balmford, A., The calculus of conserving biological diversity 321
Geritz, S.A.H., *see* Metz, J.A.J.
Getz, W.M., Review of *Beyond Natural Selection*, by R. Wesson 206
Ghilarov, A.M., Ecology, mythology and the organismic way of thinking in limnology 22
Gibson, R.M. and Höglund, J., Copying and sexual selection 229
Ginzburg, L.R., Evolutionary consequences of basic growth equations 133
Intuition and the logistic equation – a reply to Olson, Watkinson, Mackenzie, Young and Berryman 316
Greenwood, J.J.D., Understanding bird distributions 252
Grosberg, R.K. and Levitan, D.R., For adults only? Supply-side ecology and the history of larval biology 130
Scientific communication: the burden of responsibility – a reply to Dayton 392
Gross, M.R., *see* Coleman, R.M.
Gunson, D.E., *see* Prince, R.C.
Gustafsson, L., Review of *Behavioural Ecology* (3rd Edition), edited by J.R. Krebs and N.B. Davies 170

H
Hall, S.J., Review of *Plant–Animal Interactions in the Marine Benthos*, edited by D.M. John, S.J. Hawkins and J.H. Price 319
Halloran, M.E., Persistence, drugs and rock'n'roll 212
Hamilton, W.D., Recurrent viruses and theories of sex 277
see Hurst, L.D.
see Kathirithamby, J.
Hansson, L., Landscape ecology of boreal forests 299
Review of *Conservation Biology*, edited by P.L. Fiedler and S.K. Jain 357
Harris, M.J., *see* Berryman, A.A.
Hastings, I., Why is sex so frequent? 278
Haukioja, E. and Lehtilä, K., Moose and birch: how to live on low-quality diets 19
Healey, J., The role of scientists and foresters in the wise management of tropical forests 249
Healy, S., Optimal memory: toward an evolutionary ecology of animal cognition 399
Heinsohn, R., When conservation goes to the dogs 214
Hendy, M.D., *see* Penny, D.
Hill, R.S., *Nothofagus*: evolution from a southern perspective 190
Hindar, K., *see* Fleming, I.A.
Hiraiwa-Hasegawa, M., Review of *Coalitions and Alliances in Humans and other Animals*, edited by A.H. Harcourt and F.B.M. de Waal 394
Hobbie, S.E., Effects of plant species on nutrient cycling 336
Hobbs, R.J., The role of corridors in conservation: solution or bandwagon? 389
Höglund, J., *see* Gibson, R.M.
Holdgate, M.W., Review of *The Island of South Georgia*, edited by R. Headland 430
Holt, R.D., *see* Polis, G.A.
Hornung, M., Review of *Acidification Research in the Netherlands*, edited by G.J. Heij and T. Schneider and *Acidic Deposition*, edited by F.T. Last and R. Watling 246
Houston, A.I., *see* Dugatkin, L.A.

Howe, C.J., Beanland, T.J., Larkum, A.W.D. and Lockhart, P.J., Plastid origins 378
Hughes, A.L., Avian species described on the basis of DNA only 2
New bird species, DNA studies and type specimens – a reply to Peterson and Lanyon 168
Hughes, T.P., Ayre, D. and Connell, J.H., The evolutionary ecology of corals 292
Hurst, G.D.D., Hurst, L.D. and Johnstone, R.A., Intranuclear conflict and its role in evolution 373
Hurst, L.D., Hamilton, W.D. and Ladle, R.J., Covert sex 144
Hurst, L.D. and Vollrath, F., Sex ratio adjustment in solitary and social spiders 326
Hurst, L.D., *see* Hurst, G.D.D.
Hyde, L.M. and Elgar, M.A., Why do hopping mice have such tiny testes? 359

J

Jaeger, J-J., *see* Catzeflis, F.M.
Johnson, R. and Adams, J., The ecology and evolution of tetracycline resistance 295
Johnstone, R.A., *see* Hurst, G.D.D.
Jokela, J. and Vuorisalo, T., How to rescue the Concorde fallacy 169
Jones, D. and Birks, S., Megapodes: recent ideas on origins, adaptations and reproduction 88
Jurado, E., *see* Westoby, M.

K

Kacelnik, A., Bernstein, C. and Krebs, J.R., Habitat selection and predator–prey dynamics – a reply to Oksanen, Oksanen and Fretwell 313
Kacelnik, A., Krebs, J.R. and Bernstein, C., The ideal free distribution and predator–prey populations 50
Kathirithamby, J. and Hamilton, W.D., More covert sex: the elusive females of Myrmecolacidae 349
Kelly, D., Review of *Vegetation of New Zealand*, by P. Wardle 208
Kiltie, R.A. and Laine, A.F., Visual textures, machine vision and animal camouflage 163
Kingsolver, J.G. and Wells, M.S., Review of *Monitoring Ecological Change*, by I. Spellerberg 354
Kolasa, J., Review of *The Uses of Ecology*, by W.T. Edmondson, *Ecosystem Experiments*, edited by H.A. Mooney, E. Medina, D.W. Schindler, E-D. Schultze and B.H. Walker and *Long-term Ecological Research*, edited by P.G. Risser 281
Kozlowski, J., Optimal allocation of resources to growth and reproduction: implications for age and size at maturity 15
Pleiotropic parasites and life history theory 241
Krassilov, V., Angiosperm origins – a reply to Donoghue and Doyle 64
Krebs, C.J., Review of *The Balance of Nature?* by S.L. Pimm 139
Krebs, J.R., *see* Kacelnik, A.

L

Lack, A.J., *see* Ollerton, J.
Ladle, R.J., Parasites and sex: catching the Red Queen 405
see Hurst, L.D.
Laine, A.F., *see* Kiltie, R.A.
Lambrechts, M.M., *see* Dhondt, A.A.
Langen, T., *see* Price, T.
Lanyon, S.M., *see* Peterson, A.T.
Larkum, A.W.D., *see* Howe, C.J.
Larsen, E.W., Tissue strategies as developmental constraints: implications for animal evolution 414
Law, R., Review of *Foundations of Ecology*, edited by L.A. Real and J.H. Brown 207
Le Fèvre, J. and Bourget, E., Hydrodynamics and behaviour: transport processes in marine invertebrate larvae 288
Lehtilä, K., *see* Haukioja, E.
Leishman, M., *see* Westoby, M.
Levitan, D.R., *see* Grosberg, R.K.
Liebherr, J.K. and Wagner, D.L., Flightlessness in insects – a reply to Edmunds 421
Liebherr, J.K., *see* Wagner, D.L.
Lloyd, D., Review of *The Rumen Protozoa*, by A.G. Williams and G.S. Coleman 353
Lockhart, P.J., *see* Howe, C.J.
Long, A.D., *see* Singh, R.S.
López-Jurado, L.F., Biogeography of island lizards 134
Lumaret, R., *see* Thompson, J.D.
Lynch, J. and Snapp, S., Review of *Plant Root Growth*, edited by D. Atkinson 355
Lynch, J.M., Review of *Microbial Ecology of Leaves*, edited by J.H. Andrews and S.S. Hirano 427

M

Mabberley, D., Review of *Evolutionary Trends in Flowering Plants*, by A. Takhtajan 206
Mackenzie, A., Intuition and the logistic equation 315
Maienschein, J., Review of *The State of Nature*, by G. Mitman 429
Mallet, J., Review of *Alfred Russel Wallace*, edited by C.H. Smith 32
Marquis, R.J. and Alexander, H.M., Evolution of resistance and virulence in plant–herbivore and plant–pathogen interactions 126
Mayden, R.L., *see* Brooks, D.R.
McClintock, J.T. and Sjoblad, R.D., Recombinant biopesticides 352
McCoy, E.D., *see* Shrader-Frechette, K.S.
McCune, D.C. and Boyce, R.L., Precipitation and the transfer of water, nutrients and pollutants in tree canopies 4
McLennan, D.A., *see* Brooks, D.R.
Mesterton-Gibbons, M., *see* Dugatkin, L.A.
Metz, J.A.J., Nisbet, R.M. and Geritz, S.A.H., How should we define 'fitness' for general ecological scenarios? 198
Michalakis, Y., Olivieri, I., Renaud, F. and Raymond, M., Pleiotropic action of parasites: how to be good for the host 59
Mitchell-Olds, T., Does environmental variation maintain genetic variation? A question of scale 397
Mock, D.W. and Forbes, L.S., Parent–offspring conflict: a case of arrested development 409
Mooney, H.A., *see* Chapin, F.S. III
Mullen, A., Marine recruitment 135

Mumme, R.L., Delayed dispersal and cooperative breeding in the Seychelles warbler 330
Murray, M., Caro, T. and Dobson, A., The dynamics of Serengeti research 108
Myers, N., Review of *Ecological Economics*, edited by R. Costanza 170

N
Nichols, R.A. and Butlin, R.K., Sexual preference and genetic correlations 29
Nilsson, L.A., Orchid pollination biology 255
Nisbet, R.M., *see* Metz, J.A.J.
Nowak, M.A., What is a quasispecies? 118

O
O'Riordan, T., Review of *At Odds with Progress*, by B. Wallach and *Human Ecology –Coming of Age*, edited by S. Suzuki, R.J. Borden and L. Hens 102
Ohta, T., The meaning of natural selection, revisited at the molecular level 311
Oksanen, L., *see* Oksanen, T.
Oksanen, T., Oksanen, L. and Fretwell, S.D., Habitat selection and predator–prey dynamics 313
Olivieri, I., *see* Michalakis, Y.
Ollerton, J. and Lack, A.J., Flowering phenology: an example of relaxation of natural selection? 274
Olson, M.H., Intuition and the logistic equation 314

P
Palumbi, S.R., Marine speciation on a small planet 114
Parker, P.G. and Schug, M., Review of *Molecular Genetic Ecology*, by A.R. Hoelzel and G.A. Dover 283
Partridge, L., Measuring reproductive costs 99
Pastor, J., Review of *Dynamics of Nutrient Cycling and Food Webs*, by D.L. DeAngelis 247
Pellmyr, O., Evolution of insect pollination and angiosperm diversification 46
Penny, D., Hendy, M.D. and Steel, M.A., Progress with methods for constructing evolutionary trees 73
Perrot, V., *see* Valéro, M.
Peterson, A.T. and Lanyon, S.M., Bird species, DNA studies and type specimens 167
Pimm, S.L., Review of *An Introduction to Evolutionary Ecology*, by A. Cockburn 33
Polis, G.A. and Holt, R.D., Intraguild predation: the dynamics of complex trophic interactions 151
Poole, J.H., Review of *Mammoths, Mastodonts and Elephants*, by G. Haynes 282
Powell, J.A., Interrelationships of yuccas and yucca moths 10
Price, T. and Langen, T., Evolution of correlated characters 307
Prince, R.C., The Methuselah factor: age in cryptoendolithic communities 211
Prince, R.C. and Gunson, D.E., Anarchie in the feminine monarchie: the case of the Cape bee 398
Pusey, A., Review of *The Behavior Guide to African Mammals*, by R.D. Estes 243

Q
Queller, D.C., Does population viscosity promote kin selection? 322

R
Rackham, O., Review of *Ecology and Management of Coppice Woodlands*, edited by G.P. Buckley 422
Raup, D.M., Review of *Understanding Catastrophe*, edited by J. Bourriau 393
Raymond, M., *see* Michalakis, Y.
Renaud, F., *see* Michalakis, Y.
Reznick, D., Measuring the costs of reproduction 42
Measuring reproductive costs – a reply to Partridge 134
Richerd, S., *see* Valéro, M.
Richmond, M., Review of *Reading the Shape of Nature*, by M.P. Winsor 31
Ricklefs, R.E., Review of *Bird Population Studies*, edited by C.M. Perrins, J-D. Lebreton and G.J.M. Hirons 140
Ridley, M., Darwin sound on comparative method 37
Ritchie, M.G., Setbacks in the search for mate-preference genes 328
Rosenqvist, G. and Berglund, A., Is female sexual behaviour a neglected topic? 174
Rosenqvist, G., *see* Vincent, A.
Rozanov, A.Y., The Cambrian radiation of shelly fossils 84

S
Sala, O.E., Achieving a sustainable biosphere: an international endeavour 324
Schindler, D.E., *see* Carpenter, S.R.
Schug, M., *see* Parker, P.G.
Schulze, E-D., *see* Chapin, F.S. III
Shapiro, A.M., Review of *The Meaning of Evolution*, by R.J. Richards 242
Sheppard, A.W., Predicting biological weed control 289
Sherman, P.W., *see* Westneat, D.F.
Shrader-Frechette, K.S. and McCoy, E.D., Statistics, costs and rationality in ecological inference 96
Simms, M.J., Review of *Heterochrony*, by M.L. McKinney and K.J. McNamara 103
Singh, R.S. and Long, A.D., Geographic variation in *Drosophila*: from molecules to morphology and back 340
Sizer, N.C., Tropical forest exploitation 64
Sjoblad, R.D., *see* McClintock, J.T.
Slatkin, M., *see* Frank, S.A.
Smith, A.B., Echinoderm phylogeny: morphology and molecules approach accord 224
Snapp, S., *see* Lynch, J.
Somero, G., Review of *Animal Life at Low Temperature*, by J. Davenport 317
Stanton, M., Effects of Resource Distribution on Animal–Plant Interactions, edited by M.D. Hunter, T. Ohgushi and P.W. Price 425
Steel, M.A., *see* Penny, D.
Stone, L. and Weisburd, R.S.J., Positive feedback in aquatic ecosystems 263
Sugden, A.M., Using biotic interactions to forecast the consequences of global climate change 35
Review of *Resident Peoples and National Parks*, edited by P.C. West and S.R. Brechin, *A History of Nature Conservation in Britain*, by D. Evans and

The Subsidy from Nature: Palm Forests, Peasantry, and Development on an Amazon Frontier, by A.B. Anderson, P.H. May and M.J. Balick 136
Hurricanes in tropical forests 146
Sutherland, W.J., *see* Warren, S.M.
Szathmáry, E., Review of *Modelling Biological Populations in Space and Time*, by E. Renshaw and *Eco-Logic*, by D. Robertson, A. Bundy, R. Muetzelfeldt, M. Haggith and M. Uschold 141

T
Thompson, J.D., Models of the evolution of phenotypic plasticity – a reply to Via 64
Thompson, J.D. and Lumaret, R., The evolutionary dynamics of polyploid plants: origins, establishment and persistence 302
Tofts, C. and Franks, N.R., Doing the right thing: ants, honeybees and naked mole-rats 346
Tudge, C., Review of *Monsoonal Australia*, edited by C.D. Haynes, M.G. Ridpath and M.A.J. Williams 138
Tuomi, J., Toward integration of plant defence theories 365

U
Uetz, G.W., Foraging strategies of spiders 155

V
Valenti, M.A., *see* Berryman, A.A.
Valéro, M., Richerd, S., Perrot, V. and Destombe, C., Evolution of alternation of haploid and diploid phases in life cycles 25
Via, S., Models of the evolution of phenotypic plasticity 63
Villa, F., New computer architectures as tools for ecological thought 179
Vincent, A., Ahnesjö, I., Berglund, A. and Rosenqvist, G., Pipefishes and seahorses: are they all sex role reversed? 237
Vollrath, F., *see* Hurst, L.D.
Vuorisalo, T., *see* Jokela, J.

W
Wagner, D.L. and Liebherr, J.K., Flightlessness in insects 216
Wagner, D.L., *see* Liebherr, J.K.
Walton, D.W.H., Ecology and systematics 167
Warren, S.M. and Sutherland, W.J., Goose populations: conservation, conflict and solutions 71
Watkinson, A.R., Intuition and the logistic equation 314
Plant senescence 417
Weiner, J., Physiological limits to sustainable energy budgets in birds and mammals: ecological implications 384
Weisburd, R.S.J., *see* Stone, L.
Wells, M.S., *see* Kingsolver, J.G.
Westneat, D.F. and Sherman, P.W., Review of *Sperm Competition in Birds*, by T.R. Birkhead and A.P. Møller 423
Westoby, M., Jurado, E. and Leishman, M., Comparative evolutionary ecology of seed size 368
Wignall, P.B., Review of *Extinction*, by D.M. Raup 244
Willis, K.J., Review of *Quaternary Ecology*, by H.R. Delcourt and P.A. Delcourt 34
Wilson, M., Review of *The Ant and the Peacock*, by H. Cronin 279
Wood, A., Review of *Sulphur Cycling on the Continents*, edited by R.W. Howarth, J.W.B. Stewart and M.V. Ivanov 356
Wooller, R.D., Bradley, J.S. and Croxall, J.P., Long-term population studies of seabirds 111
Wright, S.J., Seasonal drought, soil fertility and the species density of tropical forest plant communities 260

Y
Young, T.P., Intuition and the logistic equation 315

Z
Zahavi, A., Sexual selection: badges and signals 30
Zuk, M., Sexual preference and genetic correlations – a reply to Nichols and Butlin 30

Subject Index

A
acid deposition 246
adaptation,
  evolution of altruism 279
  evolution of correlated characters 307
  flowering phenology 274
Agassiz Museum,
  history 31
age and size at maturity,
  resource allocation 15
aggression,
  primates 424
agroecosystems 280
AIDS,
  cell-cycle phase-specific drugs 212
algae,
  plastid origins 378
altruism 101, 394
  evolution 279
  kin selection theory 322
  models and mechanisms 202
amoebae,
  sex 144
amphibians,
  environmental physiology 426
angiosperm diversification,
  insect pollination 46
angiosperm origins 64
annual organisms,
  resource allocation 15
antibiotics,
  evolution and ecology of resistance 295
ants,
  polyethism 346
aquatic ecosystems,
  positive feedback 263
Arctic biogeography,
  benthic organisms 183
Artemia,
  population genetics and ecology 232
asexual reproduction,
  corals 292
assimilation constraints,
  energy budgets in birds and mammals 384
atmospheric deposition,
  nitrogen in temperate forest ecosystems 220
Australian ecology 138

B
bacteria,
  tetracycline resistance 295
beekeeping 398
bees,
  sex determination 398
behaviour,
  correlated response 307
behavioural ecology,
  African mammals 243
  evolutionary approaches 170
benthic animals,
  plant–animal interactions 319
benthic organisms,
  Arctic biogeography 183
biased gene conversion,
  intranuclear conflict 373
biodiversity,
  conservation biology 321
  ecosystem processes 107
  phylogeny and conservation 55
biogeochemical cycling,
  tree canopies 4
biogeography,
  Arctic 183
  Cambrian shelly fossils 84
  Drosophila 340
  Iceland 360
  megapodes 88
  Nothofagus 190
biological control,
  weeds 290
biopesticides 65, 352
birch,
  moose nutrition 19
bird song,
  individual recognition 178
birds,
  factors controlling distribution 252
boreal forests,
  landscape ecology 299
brachyptery,
  insects 216, 421
breeding systems,
  testis size 359
brood reduction,
  parent–offspring conflict 409
bryophytes,
  conservation 253

C
Cambrian,
  shelly fossils 84
Cambrian explosion,
  developmental genetics 414
camouflage,
  visual textures and machine vision 163
cannibalism 101
  filial in fishes 7
  sibling 409
canopies,
  transfer of water, nutrients and pollutants 4
carbon cycle,
  global 105, 363
catastrophe 393
cell differentiation,
  tissue strategies and developmental constraints 414
cellular automata 179
  plant populations and communities 38
chloroplasts,
  origins 378
chromophytes,
  plastid origins 378
chromosome variability,
  tumours and cell lines 241
climate change,
  biotic interactions 35
  economics 428
  interactions with terrestrial ecosystems 363
clines,
  geographical variation in *Drosophila* 340
clonal biology,
  corals 292
clonal plants,
  senescence 417
codon swapping,
  origins of the genetic code 177
coevolution,
  origins of the genetic code 177
  plants, herbivores and pathogens 126
  yuccas and yucca moths 10
cognition,
  memory 399
commensalism,
  terrestrial vertebrates 194
community ecology 139
  intraguild predation 151
  vertebrates 194
comparative method 68
  Darwin 37
compartmentalization,
  molecular-level selection 311
competition,
  pipefishes and seahorses 237
computer architectures,
  complex ecological systems 179
Concorde fallacy 169
conservation 136
  birds 252
  bryophytes 253
  goose populations 71
  megapodes 88
  wild dogs 214
conservation biology 357
  biodiversity 55, 321
  phylogeny 55, 353
  role of corridors 389
  Serengeti National Park 108
cooperation,
  mechanisms and models 202
cooperative breeding,
  birds 330
coppice woodlands,
  ecology and management 422

copulation,
frequency 175
copying,
sexual selection 229
corals,
evolutionary ecology 292
correlated characters,
evolution 307
corridors,
conservation biology 389
costs of reproduction 42
cyanobacteria,
endolithic communities 211
cytogenetics,
polyploidy in plants 302

D
Darwin,
comparative method 37
deception,
orchid pollination 255
developmental constraints,
tissue strategies 414
diapause,
yucca moths 10
diet,
large herbivores 19
small vertebrate herbivores 159
digestion,
energy budgets in birds and mammals 384
small vertebrate herbivores 159
diploid life cycle 25
dispersal,
cooperative breeding in birds 330
marine 114
marine invertebrate larvae 288
Nothofagus 190
population viscosity and kin selection 322
role of corridors 389
distance models,
plant populations and communities 38
distribution,
birds 252
disturbance,
hurricanes in tropical forest 146
diversity,
marine organisms 286
DNA,
species description 2, 167
DNA–DNA hybridization,
echinoderm phylogeny 224
DNA fingerprinting,
paternity in primates 72
dogs,
wild 214
Drosophila,
geographic variation 340
drought,
seed size 368
species density in tropical forests 260
drugs,
cell-cycle phase-specific 212
dynamic models,
predator–prey distributions 50
spatiotemporal 38

E
E. coli,
experimental evolution 250
echinoderms,
phylogeny 224
ecological economics 170
ecological engineering 268
ecological genetics,
Drosophila 340
plant fitness 397
ecological modelling 141
ecological monitoring 354
ecological systems,
application of computer architectures 179
ecology,
classic papers 207
comparative 243
history 429
mythological thinking 22
ecosystem ecology 281
biodiversity 107
ecosystem modelling,
Serengeti National Park 108
ecosystem resistance and resilience,
phosphorus cycle in lakes 332
ecosystem structure,
positive feedback 263
electrophoretic variation,
Drosophila 340
elephants and mammoths,
evolutionary biology 282
endolithic communities,
Antarctic 211
energy,
optimal resource allocation 15
energy budgets,
birds and mammals 384
engineering,
ecological 268
environmental politics 395
environmental variation,
genetic variation 397
equilibrium models,
predator–prey distributions 50
error,
replication 118
type-I and type-II 96
eukaryotic evolution,
plastid origins 378
eutrophication,
freshwater 318
evapotranspiration,
tree canopies 4
evolution,
experimental 250
evolutionary ecology 33
evolutionary theory 242
evolutionary trees,
construction 73
extinction 244, 245

F
feedback,
phosphorus cycle in lakes 332
female choice 174
fertilization,
marine organisms 114
fish,
phosphorus cycle in lakes 332
Fisher's Fundamental Theorem 92
fishes,
filial cannibalism 7
fitness,
definitions 198
genotype-by-environment interactions in plants 397
resource allocation 15
flightlessness,
insects 216, 421
flora,
British 171
flowering phenology,
adaptation and neutrality 274
flowering plants,
evolution 206
fog interception,
tree canopies 4
food chains,
aquatic ecosystems 263, 332
food webs,
nutrient cycling 247
foraging,
moose on birch 19
spiders 155
web-weaving spiders 270
foraging for work,
social animals 346
forest ecosystems,
nitrogen cycling 220
forestry,
tropical forest management 249
fossil record,
Nothofagus 190
fragmentation,
boreal forests 299
frequency-dependent selection,
red queen hypothesis 405

G
gain curves,
hermaphroditic plants 79
game theory,
models and mechanisms of cooperation 202
gametogenesis,
intranuclear conflict 373
geese,
conservation 71
genetic code,
origins 176
genetic correlations,
sexual preference 29
genetic structure,
marine populations 114
genetic variation,
environmental variation 397

genomic imprinting,
intranuclear conflict 373
geographic variation,
Drosophila 340
green algae,
plastid origins 378
growth equations,
evolutionary
consequences 133
growth trajectories,
resource allocation 15
gut capacity,
small herbivorous
vertebrates 159
gut morphology,
energy budget limitation
in birds and mammals
384
habitat saturation,
cooperative breeding in
birds 330
habitat segregation,
K. Imanishi and Japanese
ecology 285
habitat selection,
predator–prey dynamics
313
haplo-diploid life cycle 25
haploid life cycle 25
helping behaviour,
birds 102
herbivores,
effects on nutrient cycling
336
herbivory,
evolution of plant
resistance 126
fibrous diets 159
moose on birch 19
plant defences 395
plant secondary
metabolism 365
hermaphroditic plants,
sex allocation 79
heterochrony 103
heterokonts,
plastid origins 378
heterostyly 428
hopping mice,
testis size 359
human ecology 102
hurricanes,
tropical forest 146
hybridization,
plants 302, 401
hydrodynamics,
dispersal of marine
invertebrate larvae 288

I

Iceland,
biogeography 360
ideal free distribution,
predator–prey populations
50
Imanishi, K.,
history of ecology in Japan
285
inclusive fitness theory,
population viscosity and
kin selection 322
incubation mounds,
megapodes 88
individual recognition,
voice in birds 178
influenza virus,
evolution of sex 147, 277
intranuclear conflict 373
introgression,
plants 401
invasions,
plants 401
inverse modelling,
global carbon cycle 105
island biogeography,
lizards 134
island ecology,
South Georgia 430
iteroparous plants,
senescence 417

J

Japan,
K. Imanishi's influence on
ecology 285

K

kin recognition 100
kin selection,
population viscosity 322

L

landscape ecology,
boreal forests 299
corridors in conservation
389
larvae,
dispersal in marine
systems 288
supply-side ecology 130
leaves,
microbial ecology 427
lekking,
copying and sexual
selection 229
life cycles,
alternation of haploid and
diploid phases 25
life history,
Artemia 232
costs of reproduction 42
marine species 114
plant succession 143
resource allocation 15
seabirds 111
life history theory,
pleiotropic parasites 241
limnology,
mythological thinking 22
phosphorus cycling 332
litter,
nutrient cycling 336
lizards,
island biogeography 134
logistic equation 133, 314
longevity,
endolithic communities
211
roots 173
Lyapunov exponent,
definitions of fitness 198

M

maladaptive characters,
evolution by correlated
response 307
management,
boreal forests 299
tropical forest 249, 361
marine invertebrate larvae,
dispersal 288
marine organisms,
latitudinal diversity clines
286
mate choice,
copying 229
preference genes 328
mating systems,
female sexual behaviour
174
hermaphroditic plants 79
marine 114
megapodes 88
primates 72
maximum likelihood,
phylogenetic trees 73
megapodes,
origins, adaptations and
reproduction 88
meiotic drive,
intranuclear conflict 373
natural selection 311
memory,
retention times 399
metabolism,
energy budgets in birds
and mammals 384
metaphors,
computer architectures
and ecology 179
microbial ecology,
leaves 427
microbial loop,
positive feedback in
aquatic ecosystems 263
molecular clock,
echinoderm phylogeny
224
muroid rodent phylogeny
122
molecular ecology,
techniques 283
molecular genetics,
plastid origins 378
molecular interplay,
selection 311
molecules versus
morphology,
geographical variation in
Drosophila 340
muroid rodent phylogeny
122
monogamy,
megapodes 88
monophyly,
species concepts 1
moose,
nutrition 19
morphogenesis,
tissue strategies and
developmental constraints
414
mosaic structure,
boreal forests 299
Muller's ratchet,
sex in RNA viruses 147
multicopy genes,
intranuclear conflict 373
muroid rodents,

phylogeny and evolution 122
mutation,
experimental evolution in *E. coli* 250
mutation–selection process,
quasispecies theory 118
mutualism,
insect pollinators 46
orchid pollination 255
terrestrial vertebrates 194
yuccas and yucca moths 10
Myrmecolacidae,
elusive females 349
mythological thinking,
limnology and ecology 22

N
natural selection 206
Fisher's Fundamental Theorem 92
molecular level 311
neighbourhood models,
plant populations and communities 38
neutrality,
flowering phenology 274
New Zealand,
vegetation 208
nitrogen cycling,
temperate forests 220
nitrogen saturation,
temperate forests 220
non-timber products,
tropical forests 361
Nothofagus,
evolution 190
null hypotheses 96
nutrient cycling,
aquatic ecosystems 263
effects of plant species 336
food webs 247
lakes 332
nitrogen in temperate forest ecosystems 220
nutrient transfer,
tree canopies 4
nutrition,
moose and birch 19
nutritional ecology,
small mammals 159

O
operational sex ratio,
pipefishes and seahorses 237
optimal foraging,
spiders 155
optimality,
resource allocation 15
orchids,
pollination 255
organismic thinking,
ecology and limnology 22

P
palaeopathology 137
palynology,
Nothofagus 190
parallel computers,
ecological spatial modelling 179
parasites,
pleiotropic action 59
parasites and sex,
red queen hypothesis 405
parent–offspring conflict 409
parental care 67
pipefishes and seahorses 237
parental investment 409
filial cannibalism in fishes 7
parsimony,
phylogenetic trees 73
parthenogenesis,
Artemia 232
parthenogens,
parasite loads 405
patch size,
boreal forests 299
patchy-environment models,
plant populations and communities 38
paternity,
primates 72
pathogens,
evolution of plant resistance 126
plant defences 395
pattern recognition,
camouflage 163
perennial organisms,
resource allocation 15
pesticides,
recombinant DNA technology 352
phenology,
flowering 274
tropical forest shrubs 260
phenotypic manipulations,
costs of reproduction 42
phenotypic plasticity,
models of evolution 63
phosphorus cycle,
feedbacks in lakes 332
phylogeny,
angiosperms and pollinating Lepidoptera 46
biodiversity and conservation 55
comparative method 68
conservation biology 353
echinoderms 224
molecular and morphological techniques 224
muroid rodents 122
plastid origins 378
seed size 368
species concepts 1
tetracycline resistance 295
tree construction 73
physiological approach,
limnology 22
physiological ecology,
animal life at low temperature 317
small vertebrate herbivores 159
sustainable energy budgets in birds and mammals 384
woody plants 66
pipefishes and seahorses,
sex-role reversal 237
plant defences,
birch 19
herbivores and pathogens 395
secondary metabolism 365
plastids,
origins 378
pleiotropy,
evolution of correlated characters 307
parasites 59, 241
pollination,
flowering phenology 274
hermaphroditic plants 79
insects and angiosperm diversification 46
orchids 255
yuccas and yucca moths 10
pollutants,
transfer in tree canopies 4
polyethism,
social animals 346
polymerase chain reaction,
species description 2, 167
polymorphism,
geographical variation in *Drosophila* 340
polyploidy,
plants 302, 401
population biology,
birds 140
seabirds 111
population dynamics,
definitions of fitness 198
population genetics,
Artemia 232
corals 292
polyploidy in plants 302
population viscosity,
kin selection 322
positive feedback,
aquatic ecosystems 263
precipitation,
interception by tree canopies 4
predation,
intraguild 151
seeds 368
predator–prey dynamics,
habitat selection 313
predator–prey populations,
ideal free distribution 50
primates,
mating systems 72
prisoner's dilemma,
models of mechanisms of cooperation 202
proboscideans,
evolutionary biology 282
prochlorophytes,
plastid origins 378
protozoa,
alimentary 353
pseudocopulation,
orchid pollination 255
purifying selection,
sex in RNA viruses 147

Q
quantitative genetics,
costs of reproduction 42
evolution of correlated characters 307
quasispecies theory 118
quaternary ecology 34
quaternary glaciation,
consequences for Arctic biota 183

R
radiation,
angiosperms and insect pollinators 46
Cambrian shelly fossils 84
muroid rodents 122
reaction–diffusion models,
plant populations and communities 38
recognition,
voice in birds 178
recombinant DNA technology,
biopesticides 352
recombination,
intranuclear conflict 373
red queen hypothesis 405
RNA viruses 147
recruitment,
marine invertebrate larvae 288
marine species 135
red queen hypothesis,
parasites and sex 405
relative growth rate,
seed size 368
replication,
error 118
reproduction,
asexual and sexual 144, 278
costs 42
reproductive biology 67
Artemia 232
cooperative breeding and dispersal 330
corals 292
filial cannibalism in fishes 7
hermaphroditic plants 79
megapodes 88
Myrmecolacidae 349
orchids 255
parent–offspring conflict 409
pipefishes and seahorses 237
polyploidy in plants 302
seabirds 111
testis size 359
viruses 277
yuccas 10
reproductive costs,
measurement 99
measuring 134
resource allocation,
age and size at maturity 15
hermaphroditic plants 79
plant secondary metabolism 365
seed size 368
resource distribution,
plant–animal interactions 425
rhizosphere,
effects on nutrient cycling 336
rhodophytes,
plastid origins 378
ribosomal DNA,
plastid origins 378
RNA sequence data,
echinoderm phylogeny 224
RNA viruses,
evolution of sex 147, 277
rodents,
phylogeny and evolution 122
root growth 355
roots,
longevity 173

S
saltmarsh ecology 356
scientific communication 392
seabirds,
population biology 111
secondary metabolism,
plant defence 365
seed size,
comparative evolutionary ecology 368
segregation distortion 311
intranuclear conflict 373
selection,
evolution of correlated characters 307
experimental evolution in *E. coli* 250
geographic variation in *Drosophila* 340
selection coefficient,
definitions of fitness 198
selfing,
hermaphroditic plants 79
selfish genes,
intranuclear conflict 373
levels of selection 311
sex-ratio distortion 326
semelparous plants,
senescence 417
senescence,
plants 417
Serengeti National Park,
research and conservation 108
sex,
amoebae 144
evolution 144, 278
evolution in RNA viruses 147, 277
sex allocation,
hermaphroditic plants 79
sex and parasites,
red queen hypothesis 405
sex determination,
bees 398
intranuclear conflict 373
sex ratios,
Hymenoptera 409
sex-ratio distortion,
spiders 326
sex role reversal,
pipefishes and seahorses 237
sexual behaviour,
female 174
sexual preference,
genetic correlations 29
sexual reproduction,
corals 292
sexual selection,
badges and signals 30
copying 229
morphological characters 414
preference genes 328
Seychelles warbler,
cooperative breeding 330
shade,
seed size 368
shelly fossils,
Cambrian 84
sibling species,
yucca moths 10
signalling,
sexual selection 30
silk,
molecular and spectral properties 270
size and age at maturity,
resource allocation 15
skeletal chemistry,
Cambrian shelly fossils 84
social animals,
polyethism 346
social biology,
wasps 140
soil fertility,
species density in tropical forests 260
soil–litter systems,
nitrogen cycling in forest ecosystems 220
spatial structure,
vegetation dynamics 38
spatiotemporal dynamic models,
populations and communities 38
speciation,
marine 114
phylogeny and biodiversity 55
polyploidy in plants 302
species concepts,
phylogenetic 1
species density,
tropical forests 260
species description,
DNA 2, 167
species richness,
marine organisms 286
sperm competition,
birds 423
testis size in hopping mice 359
spermatozoa,
fish evolution and systematics 66
spiders,
foraging 155, 270
molecular and organismal

processes in evolution 270
sex-ratio distortion 326
stability,
phosphorus cycle in lakes 332
statistics,
costs and rationality 96
stratigraphy,
Cambrian shelly fossils 84
succession,
plant life histories 143
spatiotemporal dynamic models 38
sulphur cycle 356
supply-side ecology,
history of larval biology 130
Sustainable Biosphere Initiative,
international 324
sustainable development,
tropical forests 361
symbiosis,
evolutionary innovation 422
plastid origins 378
symmorphosis,
energy budgets in birds and mammals 384
systematics 167
phylogenetic species concepts 1

T
taxonomy,
DNA sequence 2, 167
tessellation models,
plant populations and communities 38
testis size,
hopping mice 359
tetracycline,
evolution and ecology of resistance 295
tissue strategies,
developmental constraints 414
transposable elements,
intranuclear conflict 373
tree canopies,
transfer of water, nutrients and pollutants 4
trees,
phylogenetic 73
trophic interactions,
intraguild predation 151
trophic structure,
aquatic ecosystems 263, 332
tropical forest,
exploitation 64
factors affecting species density 260
hurricanes 146
management 249
non-timber products 361
tumours and cell lines,
chromosome variability 241

V
vegetation,
New Zealand 208
vegetation dynamics,
spatiotemporal models 25
vegetative growth,
corals 292
vertebrates,
commensalism and mutualism 194
virulence,
plant pathogens 126
viruses,
evolution of sex 147, 277
quasispecies theory 118
vision,
camouflage 163
visual textures,
machine vision and camouflage 163

W
Wallace,
Alfred Russel 32
water relations,
tree canopies 4
weeds,
biological control 290
wild dogs,
conservation 214
wings,
insects 216, 421
Wright, Sewall 92

Y
yuccas,
yucca moths 10

Z
zidovudine,
AIDS treatment 212
zooplankton,
phosphorus cycle in lakes 332